

Notice of Allowability

Application No.

10/796,955

Examiner

Jerry Martin Blevins

Applicant(s)

MANDERSCHIED, RICHARD M.

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 06/02/2006.
2. ☒ The allowed claim(s) is/are 1-3, 5, 16, 19-21 and 34-37.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


BRIAN HEALY
PRIMARY EXAMINER

DETAILED ACTION

Response to Arguments

Applicant's arguments, see pages 5 and 6, filed June 2, 2006, with respect to claims 1-3, 5, 16, 19-21, and 34-37 have been fully considered and are persuasive. The rejection of claims 1-3, 5, 16, 19-21, and 34-37 has been withdrawn.

Allowable Subject Matter

Claims 1-3, 5, 16, 19-21, and 34-37 are allowed.

The following is an examiner's statement of reasons for allowance:

US Patent to Buchter, number 6,536,957.

Regarding claim 1, the prior art, as best exemplified by US Patent to Goossen, number 6,271,943, teaches an optic triplexer (Figure 4) comprising an emitting laser (either 412 or 414) a first photodiode (photodiode 30, Figure 1, part of photodetector 2, Figures 1 and 4), a second photodetector (photodiode 20, Figure 1, part of photodetector 2, Figures 1 and 4), wherein the first photodiode and the second photodiode are monolithically integrated on a substrate (Figure 1, element 10), the laser, the first photodiode, and the second photodiode are axially aligned with the emission axis of the emitting laser (Figure 4). Goossen does not teach a thin film filter located between the emitting laser and one of the first and the second photodiodes. US Patent to Buchter, number 6,536,957, teaches an optic triplexer (Figure 3, and see, for example, column 4, lines 23-40) comprising an emitting laser (143b), a first

Art Unit: 2883

photodiode and a second photodiode (included in photodiode array 11, see Figure 5 elements 113a, 113b), wherein the first and the second photodiode are monolithically integrated on a substrate (101); and a thin film filter (123) between the emitting laser and one of the first and second photodiodes. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the optic triplexer of Goossen with the thin film filter of Buchter. The motivation would have been to filter out undesired wavelengths from reaching the photodetectors. Goossen also does not teach that the emitting laser and the first and second photodiodes are packaged within a transistor outline can. US Pre Grant Publication to Bartur et al., number 2003/0147601, teaches a laser (Figure 2B, element 224 and paragraphs 10 and 27) and photodiodes (Figure 2B, elements 130 and 210 and paragraphs 10 and 27) that are packaged within a transistor outline can (paragraph 22). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the optic triplexer of Goossen with the TO can of Bartur. The motivation would have been to ease the mounting of the optical components (Bartur paragraph 22). However, Goossen, taken individually or in combination with Buchter and Bartur, fails to disclose or render obvious that the packaging is arranged such that optical signals received by the transistor outline can first impinge on the emitting laser before impinging on one of the first and the second photodiodes.

Claims 2, 3, and 5 are allowed based on their dependence from allowed base claim 1.

Regarding claim 16, the prior art, as best exemplified by Bartur, teaches a method for making an optic triplexer comprising the provision of a substrate (Figure 2D, element 212 and paragraph 10), the monolithical formation on the substrate of a photodiode (Figure 2B, element 210 and paragraphs 10 and 27), the monolithical formation on the substrate of another photodiode (Figure 2B, element 130 and paragraphs 10 and 27), and the monolithical formation of an emitting laser (Figure 2B, element 224 and paragraphs 10 and 27). Bartur also teaches a thin film filter located between the photodiodes (Figure 2C, element 213 and paragraph 27).

Bartur does not teach that the second photodiode is monolithically formed on top of the first photodiode. Bartur also does not teach that the laser is placed/monolithically formed on top of the second photodiode. Furthermore, Bartur does not teach a thin film filter on top of the photodiode before forming the other photodiode. Buchter teaches a second photodiode (Figure 5, element 1 13a) monolithically formed on top of a first photodiode (1 13b). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Bartur with the placement of photodiodes taught by Buchter. The motivation would have been to save space. This modification would have necessitated that the thin film filter located between the photodiodes, taught by Bartur, would have been formed on top of the first photodiode before the formation of the other photodiode. US Pre Grant Publication to Kondo, number 2004/0007709, teaches an optic device comprising an emitting laser that is monolithically integrated and placed on top of the top surface of at least one photodiode that is monolithically integrated on a substrate (paragraph 41). It would have been obvious to one of ordinary

Art Unit: 2883

skill in the art at the time of the invention to place the laser of Bartur on top of the top surface of the photodiodes as taught by Kondo. The motivation would have been to save space, since this implementation would produce a more compact triplexer.

However, Bartur, taken individually or in combination with Buchter and Kondo, fails to disclose or render obvious the step of forming a thin film filter on top of the another photodiode before placing/monolithically forming the emitting laser.

Claims 19-21 are allowed based on their dependence from allowed base claim 16.

Regarding claim 34, the prior art, as best exemplified by Goossen, teaches an optic device for transceiving optic signals along an axis (Figure 4) comprising a laser (either 412 or 414) selectively emitting a first optical signal along an axis of emission, a first photodiode (photodiode 30, Figure 1, part of photodetector 2, Figures 1 and 4) detecting a second optical signal, a second photodetector (photodiode 20, Figure 1, part of photodetector 2, Figures 1 and 4), detecting a third optical signal, wherein the laser, the first photodiode, and the second photodiode are axially aligned with the emission axis (Figure 4), and the first photodiode being located between the laser and the second photodiode (Figures 1 and 4). Goossen does not teach that the laser and the first and second photodiodes are integrated within a transistor outline can. US Pre Grant Publication to Bartur et al., number 2003/0147601, teaches a laser (Figure 2B, element 224 and paragraphs 10 and 27) and photodiodes (Figure 2B, element s 130 and 210 and paragraphs 10 and 27) that are packaged within a transistor outline can (paragraph 22). It would have been obvious to one of ordinary skill in the art at the time of the

Art Unit: 2883

invention to modify the optic triplexer of Goossen with the TO can of Bartur. The motivation would have been to ease the mounting of the optical components (Bartur paragraph 22). However, Goossen, taken individually or in combination with Bartur, fails to disclose or render obvious that the packaging is arranged such that optical signals received by the transistor outline can first impinge on the emitting laser before impinging on one of the first and the second photodiodes.

Claims 35-37 are allowed based on their dependence from allowed base claim 34.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMB


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